

# The Effectiveness of low dose Ketamine and Propofol in prevention of Shivering in patients during Cesarean section under Spinal Anesthesia

## Abstract

**Background and Objective:** Postoperative shivering is one of the common complications after anesthesia and it is usually followed by many problems such as increase in Oxygen consumption, production of Carbon-dioxide, intra optical pressure and the pain of surgical site. The present study was designed to evaluate the effectiveness of low dose Ketamine and Propofol in prevention of Shivering in patients during Cesarean section under Spinal Anesthesia.

**Methods:** In this randomized triple blind study, 147 patients who were candidate for elective cesarean section under spinal anesthesia, with ASA class I or II and aged 15-45 years, were randomly divided into three groups. After withdrawal of embryo, in one group 10 mg of Ketamin, in other one 10 mg of Propofol and in last group 2 cc Normal-salin was injected. During surgery and half an hour after operation in recovery room, the degree of shivering and nausea and vomiting in patients was evaluated and recorded in questionnaires.

**Results:** There were no significant differences among three mentioned groups regarding of age, weight, gestational age, past surgical history and ASA ( $p > 0.05$ ). There was a significant difference between placebo group with Ketamine ( $p = 0.004$ ) and Propofol ( $0.032$ ) group in during surgery shivering. Half an hour after surgery in recovery room, there was also a significant difference between placebo group with Ketamine ( $p = 0.041$ ) and Propofol ( $p < 0.0001$ ) group in shivering. In incidence of nausea-vomiting, there was no significant difference between groups during of surgery ( $p = 0.318$ ), but half an hour after surgery in recovery room there was a significant difference between placebo group with Ketamine and Propofol group ( $p = 0.006$ ).

**Conclusion:** The present study showed that both of Ketamine and Propofol are effective in prevention of postoperative shivering and nausea-vomiting, as a result, these drugs can be used for control of shivering and nausea- vomiting in prohibition of other drugs.

**Key Word:** Postoperative Shivering, Ketamine, Propofol, Cesarean Section, Spinal Anesthesia